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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,614	09/25/2003	Frederick M. Discenzo	03AB070/ALBRP325US	6779

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Susan M. Donahue
Rockwell Automation
704-P, IP Department
1201 South 2nd Street
Milwaukee, WI 53204

EXAMINER	
FRANK, RODNEY T	

ART UNIT	PAPER NUMBER
2856	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/670,614	DISCENZO, FREDERICK M.	
	Examiner	Art Unit	
	Rodney T. Frank	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *34-43* is/are allowed.

6)☒ Claim(s) *1-3,6-8,14,30-33 and 44* is/are rejected.

7)☒ Claim(s) *4,5,9-13 and 15-29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/30/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Dave Grillo on 14 September 2004.

The application should be amended as follows:

In the Claims:

1. A system that facilitates measurement, analysis, and automatic maintenance of fluid, comprising:

a casing that is immersed in a fluid, the casing comprising a plurality of apertures that are opened to permit the fluid to enter the casing, and closed to confine a sample of the fluid within the casing; and

a sensing element within the casing that measures at least one property ~~parameter~~ of the sample of the fluid confined within the casing.

11. The system of claim 10, wherein closing the plurality of apertures ~~aperture(s)~~ facilitates flushing contaminants from the screen.

13. The system of claim 12, wherein closing the plurality of apertures ~~aperture(s)~~ facilitates flushing contaminants from the screen.

34. A method that facilitates real-time in situ measurement, analysis, and automatic maintenance of fluid, comprising:

immersing a casing within a fluid, wherein the casing comprises a plurality of

apertures that can be opened and closed, and the fluid is within one of a flow line and a reservoir;

opening the apertures to enable a sample of fluid to enter the casing;

closing the apertures to confine the sample of fluid within the casing; and

measuring at least one property ~~parameter~~ of the sample of fluid.

35. The method of claim 34, further comprising:

automatically altering volume of fluid within one of the fluid flow line and the fluid reservoir based at least in part upon the measured property ~~parameter~~

36. The method of claim 34, further comprising:

automatically altering fluid chemistry within one of the fluid flow line and the fluid reservoir based at least in part upon the measured property ~~parameter~~

44. A system that facilitates automatic maintenance of fluid within machinery, comprising:

means for confining a sample of fluid within a casing;

means for measuring at least one property ~~parameter~~ of the sample of fluid; and

means for flushing the sample of fluid from the casing.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Liang (U.S. Patent Number 6,792,798). Liang discloses the present invention discloses an acoustic resonator device capable of nucleating bubbles in a formation fluid under borehole-like conditions wherein the static pressure is higher than the bubble point pressure. The device is comprised of one or more coaxial layers forming a central conduit, wherein at least one of the coaxial layers is comprised of an electro-acoustic transducer material such as including piezoelectric or magnetorestrictive materials. This device is preferably designed to be in fluid communication with a host tool to allow in-situ sampling and bubble point determination. Also disclosed is an in-situ method of fluid analysis in a borehole for determining phase characteristics of a formation fluid using the device. Cavitation may be induced using the device in either a captured volume sample or a flow-line sample (Please see the abstract).

3. With regard to claim 1, Liang discloses and shows in figure 8a, a system comprising a casing (100) that is immersed in a fluid, the casing comprising a plurality of apertures (160 and 150) that are opened to permit the fluid to enter the casing, and closed to confine a sample of the fluid within the casing; and a sensing element within the casing (10) that measures at least one parameter of the sample of the fluid confined within the casing.

4. In reference to claim 44, Liang discloses and shows in figure 8a a system comprising means for confining a sample of fluid within a casing; means for measuring at least one parameter of the sample of fluid (10); and means for flushing the sample of fluid from the casing (150).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 3, 6, 7, 14, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang

7. In reference to claim 2, though the specific type of valve used in Liang is not disclosed, this is seen as a design choice that would be well within the preview of one of ordinary skill in the art

In reference to claim 3, the casing is disclosed to be used in a borehole tool, which is a type of probe and thus the sampler could be within the tip of said borehole tool.

In reference to claim 6, borehole tools are known to have power in order to power the electronics located within said tool, so this limitations would be obvious to one of ordinary skill in the art.

In reference to claim 7, though a display is not specifically disclosed, it would be well within the preview of one of ordinary skill in the art to provide a display in order to obtain the information that the sensor obtains.

In reference to claim 14, valve 150 would allow he fluid to be "flushed" from the casing.

In reference to claim 31, on known parameter measured with a borehole type device is groundwater.

8. Claims 1, 3, 6, 7, 8, 14, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauth (German Patent DE 196 10 167). Bauth discloses a fully immersible

measuring appts. is connected by wires to an energy source and data processing unit. The new unit determines chemical and/or physical magnitudes of fluid media, e.g. of groundwater. The sensors are integrated into a cylindrical casing with a data logger (5). The casing consists of three detachable axial sections, one (2) for the data logger, one (4) for pressure measurement, and one intermediate section (3) surrounding a sensor unit with flow openings (18). Opt. the pressure measurement casing or the intermediate section is mounted directly onto the data logger housing (2), fluid tight (Please see translated abstract).

9. In reference to claim 1, Bauth discloses and shows in the figures, a system comprising a casing that is immersed in a fluid, the casing comprising a plurality of apertures (18). The openings in Bauth are shown in an open position. Though Bauth does not specifically disclose that the openings are opened to permit the fluid to enter the casing, and closed to confine a sample of the fluid within the casing, this would be a design choice well within the preview of on of ordinary skill in the art. Bauth goes on to describe sensing elements within the casing that measures at least one parameter of the sample of the fluid confined within the casing.

In reference to claim 3, the device is disclosed to o be an immersible probe and the system is shown located towards the end of the probe.

In reference to claim 6, borehole tools are known to have power in order to power the electronics located within said tool, so this limitations would be obvious to one of ordinary skill in the art.

In reference to claim 7, though a display is not specifically disclosed, it would be well within the preview of one of ordinary skill in the art to provide a display in order to obtain the information that the sensor obtains.

In reference to claim 8, Bauth is disclosed to perform a variety of physical and chemical measurements.

In reference to claim 14, though not specifically disclosed, the device would have to flush the fluid at some point in order for the device to work for a subsequent measurement, so this limitation would be an obvious limitation of the device.

In reference to claims 30-32, the device is disclosed to be able to measure many liquids, and groundwater is mentioned specifically in the "use" section of the translated summary of the document.

In reference to claim 33, since the Bauth device is disclosed to store calibration factors, it would be also reason that the device would be able to create various models by which measurements are compared.

Allowable Subject Matter

10. Claims 4, 5, 9-13, 15-29, 45, and 46 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 34-43 are allowed.

12. The following is a statement of reasons for the indication of allowable subject matter: The method of either facilitating real-time in situ measurement, analysis, and specifically automatic maintenance of fluid or the method for educing oxidation levels in a fluid, comprising the various steps in said claims, is not disclosed nor deemed obvious in view of the prior art of record.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The examiner has cited various references that are deemed to be relevant to the general state of the art of the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (571) 272-2193. The examiner can normally be reached on M-F 9am -5:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RTF
November 18, 2004

HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800